



AF/2674
Xerox Docket No. D/A0556

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND INTERFERENCES

In re the Application of

Robert S. HAMILTON

On Appeal from Group: 2674

Application No.: 09/683,531

Examiner: K. Nguyen

Filed: January 16, 2002

Docket No.: 106472

For: E-PAPER LABELS ON RECORDABLE/REMOVABLE MEDIUM WITH OPTICAL DATA
LINK AND OPTICAL POWER SUPPLY

APPEAL BRIEF TRANSMITTAL

Commissioner for Patents
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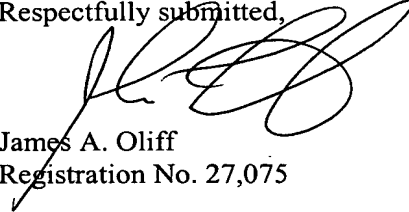
Sir:

Attached hereto is our Brief on Appeal in the above-identified application.

The Commissioner is hereby authorized to charge Deposit Account No. 24-0037 in the amount of Five Hundred Dollars (\$500.00) in payment of the Brief fee under 37 C.F.R. 1.17(f). In the event of any underpayment or overpayment, please debit or credit our Deposit Account No. 24-0037 as needed in order to effect proper filing of this Brief.

For the convenience of the Finance Division, two additional copies of this transmittal letter are attached.

Respectfully submitted,


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BRIEF ON APPEAL

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Application No. 09/683,531

I. REAL PARTY IN INTEREST

The real party in interest for this appeal and the present application is Xerox Corporation, by way of an Assignment recorded in the U.S. Patent and Trademark Office at Reel 012311, Frame 0189.

II. STATEMENT OF RELATED APPEALS AND INTERFERENCES

There are no prior or pending appeals, interferences or judicial proceedings, known to Appellant, Appellant's representative, or the Assignee, that may be related to, or which will directly affect or be directly affected by or have a bearing upon the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 1-18 are on appeal.

Claims 1-18 are pending.

Claims 1-18 are rejected.

IV. STATUS OF AMENDMENTS

An Amendment After Final Rejection was filed on August 27, 2004. By an Advisory Action dated November 2, 2004, it was indicated that the requested amendments had been entered.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates to electrically addressable labels for recordable media, as well as methods of displaying images that are usable as labels ([0001]). Such labels use electronic paper with recordable media to display certain characteristics of the recordable media or data stored therein. Such characteristics may include, for example, detecting a write/read function, activating the label display, retrieving format and access authorization to certain fields within the label display, retrieving a serialization number and updating the serialization number, evaluating content transfer, evaluating remaining storage space, date stamping content transfers, evaluating content media and transfer reporting error determinations and displaying location of errors ([0008]).

Electronic paper can be written on and erased, can be read in ambient light, and can retain information in the absence of an electric field or other external retaining force. Also, electric paper can be made in the form of a lightweight, flexible durable sheet ([0005]). The electronic paper has a display panel sandwiched between an upper substrate and a lower substrate. Between the display panel and the substrate is a first-upper layer electrical conductor (Fig. 1). A second-lower layer electrical conductor is similar to the first-upper layer electrical conductor, and may also comprise a single continuous conductive layer, or a plurality of patterned electrical conductors, or a matrix of selectively addressable electrical conductors, or the like ([0020]). At least one of the upper and lower substrates and at least one of the layers of electrical conductors are optically transparent so that the image displayable by the display device can be viewed ([0021]).

A gyricon layer is contained within the display panel. The gyricon layer includes a distribution of minute particles which are optically anisotropic. These particles are surrounded by an optically transparent dielectric fluid. The particles have a difference in Zeta potential, which causes the particles to have an electrical anisotropy. In addition to the

particles and the dielectric fluid which surrounds the particles, the gyricon includes a solid, optically transparent support material, which permits the particles to have the desired rotational freedom without having substantial translational freedom ([0022]).

The addressable display usable as a label for a recordable media, includes an energy source that generates an operating signal, an embedded optical data link for a bi-directional communication with a recording/display device, and a microcontroller that receives the operating signal generated by the energy source and a signal from the optical data link and provides a control signal to the bistable display device so that an image is generated on the label of the recordable media, wherein the label is automatically updated by the recording/display device (claim 1, Fig. 2, [0032]).

The label may also be configured by a user and includes a power source that generates an operating signal, a controller that receives the operating signal and generates a control signal, and user configurable pattern electrodes affixed to a portion of the bistable display, the pattern electrodes receiving the control signal from the controller and applying an electric field across the user selected portions of the display device (claim 9, [0036] and [0039]).

When the user inserts a recordable medium with an e-paper label into a device configured for reading from and writing content to the recordable medium . When content has been written or recorded onto the recordable media the e-paper label display is activated. After the e-paper label display has been activated the system may, for example, record a near-term expiration date warning, if the content transfer is subject to an expiration date. Alternatively, the user may elect to override the automatic serialization process, which may also include the automatic date stamp processing ([0043] - [0047]).

Displaying images usable on the label includes displaying a first image on a bistable display device usable as the label, the first image including a first region displayed with a first optical characteristic which is different than a second region displayed with a second optical

characteristic ([0031] and [0032]). Upon receipt of a control signal, a second image is displayed on the bistable display device. The second image includes the first and second regions, the first region being displayed in a third optical characteristic other than the first optical characteristic and the second region being displayed in a fourth optical characteristic other than the second optical characteristic (claim 10).

For example, upon insertion of the recordable media into a device configured for reading and writing content to the recordable media, the system may time and date stamp the particular content transfer. The system may also indicate an expiration date for content transfers of a less than infinite time duration. One such example of a less than infinite, or otherwise time-sensitive content transfer, may, include a demonstration version of a particular software program. The system may then read the storage capacity remaining on a particular recordable medium and transfer this information to the e-paper label display region. After completing the transfer, the system may, for example, read the any errors found on the particular recordable medium. The controller can then transfer this information to the e-paper label display region ([0048] and [0049]).

The invention is also directed to a method of creating a display usable as a label on recordable media, the method being suitable for execution proximate to a location where the display is to be deployed, the method comprising configuring a set of electrodes in a pattern corresponding to an image to be displayed as the label, affixing the set of electrodes to a bistable electrically activatable display device, and operatively coupling the display device with the electrodes affixed to a power source, an optical data link and a controller, the controller being capable of generating a control signal based on at least one of data embedded in the controller and data received via the optical data link, the display device using the power source (claim 18, [0020]-[0032], Figs 1 and 2).

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The following grounds of rejection are presented for review:

- 1) Claims 1-18 are rejected as having been obvious under 35 U.S.C. §103(a) over U.S. Patent 5,745,102 to Bloch et al., in view of U.S. Patent 6,118,426 to Albert et al.

VII. ARGUMENT

The Office Action rejects all of pending claims 1-18 over U.S. Patent No. 5,745,102 to Bloch et al. (Bloch) in view of U.S. Patent No. 6,118,426 to Albert et al. (Albert). The Office Action fails to give proper consideration to the factual inquiries required in determining obviousness.

A. Factual Inquiries to Determine Obviousness/Non-Obviousness

In rejecting claims under 35 U.S.C. §103, it is incumbent on the Examiner to establish a factual bases to support the legal conclusion of obviousness. See, In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In doing so, the Examiner must provide the actual determinations as set forth in Graham v. John Deere Co., 383, U.S. 1, 17, 148 USPQ, 459, 467 (1966). The criteria set forth in Graham v. John Deere Co. include 1) some suggestion or motivation in either the references or in the knowledge generally available to one of ordinary skill in the art, to modify the references or combine the teachings; 2) a reasonable expectation of success, and 3) the combination must teach or suggest all of the claim features. These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note, In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). The mere fact that the prior art may be modified in the manner suggested by the examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

The Office Action fails to give proper consideration to the factual inquiries set forth in Graham in formulating the rejection of claims 1-18. Proper consideration of the factual inquiries demonstrates nonobviousness of the pending claims.

B. Claims 1-18 Would Not Have Been Obvious Over U.S. Patent 5,745,102 to Bloch et al., (Bloch) in View of U.S. Patent 6,118,426 to Albert et al. (Albert)

The Office Action alleges that Bloch teaches each and every feature recited in independent claims 1, 9, 10 and 18, "except for a bistable display device". In an attempt to overcome the admitted deficiency, the Office Action combines Albert and alleges that it would have been obvious to a person of ordinary skill in the art at the time of the invention to substitute Bloch's display label with the display disclosed in Albert.

1. Bloch Does Not Disclose or Suggest All of the Claim Features

Bloch teaches a liquid crystal display device 110, a disk terminal strip 112, a memory 114 and a battery 116 residing directly on the housing 118 of a floppy disk 120 (col. 3, lines 50-56). In an alternate embodiment, Bloch discloses that the various elements including the memory 114 and battery 116 could also reside internal to the storage device housing and that only the display means 110 and possibly the data interface (disk terminal stripe 112) would be external to the data storage device (col. 4, lines 23-33). In another embodiment, Bloch discloses that the display mechanism, i.e., the LCD, could be mounted on a clip-like device or on an adhesive-backed device constructed of metal, plastic, or the like (col. 11, lines 43-50).

In contrast, the pending claims relate to a bistable display device usable as the label, the label including, an energy source (power source)... , an embedded optical data link for bi-directional communication with a recording/play device, and a microcontroller that receives the operating signal generated by the energy source (power source) and a signal from the optical data link. In other words, the rejected claims recite a label having these features. In contrast, Bloch discloses the alleged corresponding features incorporated directly on or in a housing of a floppy disk. Thus, Bloch does not disclose, suggest, or even contemplate a label of any type, having the unique features as recited in the claims. Furthermore, Bloch fails to

disclose or suggest a bistable display device usable as a label, as admitted in the Office Action.

2. Albert Does Not Remedy The Deficiencies of Bloch

Albert discloses a printable display comprising an encapsulated electrophoretic display medium, (col. 2, lines 24-25), and a process for creating an electrically addressable display including providing a substrate and printing an electrically active ink comprising at least one micro-capsule dispersed in a binder onto a first area of a receiving substrate (col. 4, lines 26-31). Albert also discloses a number of embodiments for the use of such a display and that the display may include the use of bi-chromal microspheres or liquid crystals (col. 12, line 16-41). However, Albert does not disclose or suggest an addressable display usable as a label for recordable media, the label including an embedded optical link for bi-directional communication with a recording/play device and a controller that receives the operating signal generated by the energy source, as recited in the rejected claims.

For example, Fig. 2 of Albert shows a block diagram of an indicator 10 which includes an electronically addressable display 12 comprising the display 1 that is shown in Fig. 1. The display 12, a transducer 14, and a printed battery, are disposed on substrate 16. The transducer 14 is capable of generating an electrical event to trigger a change in the state of the display. Thus, Albert does not show a label as recited in the rejected claims. Although Albert discloses the use of encapsulated twisting ball displays as the display media 24 (see Fig. 3, col. 9, lines 5-7), Albert does not disclose or suggest a label including an energy source that generates an operating signal, an embedded optical link for bi-directional communication with a recording/play device and an microcontroller that receives the operating signal generated by the energy source and a signal from optical data link and provides a control signal to the bistable display device so that an image is generated on the

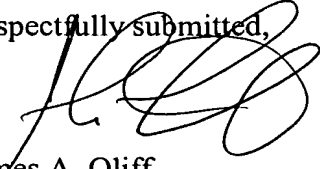
label of the recording device, wherein the label is automatically updated by the recording device.

As Albert does not overcome the deficiencies of Bloch discussed above, the combination of references does not disclose or suggest each and every feature recited in the rejected claims. Thus, neither of the applied references, whether considered alone or in combination, disclose or suggest the bistable display device usable as the label, as recited in the rejected claims. Accordingly, when properly applying the factual inquiries of Graham, claims 1-18 are not obvious over the combination of applied references.

VIII. CONCLUSION

For all of the reasons discussed above, it is respectfully submitted that the rejections are in error and that claims 1-18 are in condition for allowance. For all of the above reasons, Appellants respectfully request this Honorable Board to reverse the rejections of claims 1-18.

Respectfully submitted,



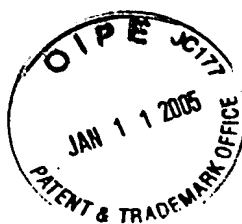
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CLAIMS APPENDIX

CLAIMS INVOLVED IN THE APPEAL:

1. An addressable display useable as a label for recording media, comprising:
a bistable display device usable as the label, the label including:
an energy source that generates an operating signal;
an embedded optical data link for bi-directional communication with a recording/play device; and
a microcontroller that receives the operating signal generated by the energy source and a signal from the optical data link and provides a control signal to the bistable display device so that an image is generated on the label of the recording media, wherein the label is automatically updated by the recording/play device.
2. The addressable display according to claim 1, wherein the bistable display comprises at least one of a transducer and an electric paper.
3. The addressable display according to claim 2, wherein the bistable display device further comprises a gyricon display.
4. The addressable display according to claim 1, wherein the power source is at least one of a thin film battery and an ambient energy source.
5. The addressable display according to claim 4, wherein the ambient energy source is a photoelectric cell.
6. The addressable display according to claim 1, wherein the bistable display detects at least one of a write-to function and a read-from function.
7. The addressable display according to claim 1, wherein the bistable display retrieves at least one of: format and access authorization, and serialization information, through the optical data link.

8. The addressable display according to claim 1, wherein the bistable display evaluates at least one of: content transfer, expiration date, capacity remaining in the media, errors in the media, and location of the errors in the media.

9. A user configurable bistable display useable as a label for recording media, comprising:

a bistable display device usable as the label, the label including:

a power source that generates an operating signal;

an embedded optical data link for bi-directional communication with a recording/display device;

a controller that receives the operating signal from the power source and a signal from the data link and generates a control signal; and

user configurable pattern electrodes affixed to a portion of the bistable display, the pattern electrodes receiving the control signal from the controller and applying an electric field across the user selected portions of the display device.

10. A method of displaying images usable as a label on recording media, comprising:

displaying a first image on a bistable display device usable as the label, the first image including a first region displayed with a first optical characteristic which is different than a second region displayed with a second optical characteristic;

receiving a display control signal produced by a circuit, the circuit being powered by a power source and communicating with an optical data link; and

displaying a second image on the bistable display device in response to the control signal, the second image including the first and second regions, the first region being displayed in a third optical characteristic other than the first optical characteristic and the

second region being displayed in a fourth optical characteristic other than the second optical characteristic.

11. The method of claim 10, wherein the bistable display comprises at least one of a transducer and an electric paper.

12. The method of claim 11, wherein the bistable display device further comprises a gyricon display.

13. The method of claim 10, wherein the power source is at least one of a thin film battery and an ambient energy source.

14. The method of claim 13, wherein the ambient energy source is a photoelectric cell.

15. The method of claim 10, further comprising detecting at least one of a write-to function and a read-from function.

16. The method of claim 10, further comprising retrieving at least one of format and access authorization, and serialization information, through the optical data link.

17. The method of claim 10, further comprising evaluating at least one of content transfer, expiration date, capacity remaining in the media, errors in the media, and location of the errors in the media.

18. A method of creating a display usable as a label on recording media, the method being suitable for execution proximate to a location where the display is to be deployed, the method comprising:

configuring a set of electrodes in a pattern corresponding to an image to be displayed as the label;

affixing the set of electrodes to a bistable, electrically activatable display device; and

operatively coupling the display device with the electrodes affixed to a power source, an optical data link and a controller, the controller being capable of generating a control signal based on at least one of data embedded in the controller and data received via the optical data link, the display device using the power source.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None

